

REMARKS

Claims 15-26 are now pending. Favorable reconsideration is respectfully requested.

The rejection of Claims 1 and 7-9 under 35 U.S.C. §102(b) over Wu I, U.S. patent No. 5,550,305, is respectfully traversed. Wu I fails to describe the claimed catalysts.

Wu I discloses a catalyst comprising an aluminoxane and a polydentate phosphine, arsine and/or stibine coordination complex of a chromium salt. As examples of the polydentate ligand used, tridentate ligands of formulas (b) $\text{CH}_3\text{E}(\text{R}'\text{Z}\text{R}''_2)_3$ and (c) $\text{E}'(\text{R}'\text{Z}\text{R}''_2)_3$ are recited in Wu I, column 3, lines 4-8. In these formulas (b) and (c), Z is phosphorus, arsenic or antimony (see column 3, lines 2-3). These elements fall within group 15 of the periodic table.

In contrast, in the tridentate ligands of formula (2) and formula (3), recited in the claimed catalysts, L^1 and L^2 recite a substituent containing nitrogen or an element of group 16 of the periodic table. Therefore, the tridentate ligands of formula (2) and formula (3) of the claimed catalysts are not within the scope of formulas (b) and (c) of Wu I. Accordingly, the reference fails to disclose the claimed catalysts. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 1 and 7-9 under 35 U.S.C. §102(b) over Wu II, U.S. patent No. 5,811,618, is respectfully traversed. Wu II fails to describe the claimed catalysts.

Wu II discloses a catalyst comprising an aluminoxane and a polydentate phosphine, arsine and/or stibine coordination complex of a chromium salt. As examples of the polydentate ligand used, tridentate ligands of formulas (b) $\text{CH}_3\text{E}(\text{R}'\text{Z}\text{R}''_2)_3$ and (c) $\text{E}'(\text{R}'\text{Z}\text{R}''_2)_3$ are recited in Wu II, column 4, lines 45-51. In these formulas (b) and (c), Z is phosphorus, arsenic or antimony (see column 4, lines 43-44). These elements fall within group 15 of the periodic table.

In contrast, in the tridentate ligands of formula (2) and formula (3), specified in the claimed catalysts, L¹ and L² specify a substituent containing nitrogen or an element of group 16 of the periodic table. Therefore, the tridentate ligands of formula (2) and formula (3) of the claimed catalysts are not within the scope of formulas (b) and (c) of Wu II. Accordingly, the reference fails to disclose the claimed catalysts. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 1 and 7-9 under 35 U.S.C. §102(e) over Wilson, U.S. patent No. 6,369,253, is respectfully traversed. Wilson fails to disclose the claimed catalysts.

Wilson discloses a metallocene compound of formula IV, VII or VIII, prepared by reaction of a ligand of formula III, VI or IX with a metal compound MX₂Y₂. Those ligands contain a silicon atom. That silicon atom corresponds to G₁ in the tridentate ligand of formula (2) and G² in the tridentate ligand of formula (3) of the claimed catalysts. G¹ in formula (2) is carbon and G² in formula (3) is nitrogen or phosphorus. Therefore, the ligands of formula (2) and formula (3) are not within the scope of the silicon-containing ligands of formula III, VI or IX disclosed by Wilson. Accordingly, the reference fails to disclose the claimed catalysts. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 1 and 7-9 under 35 U.S.C. §102(e) over Hlatky, U.S. patent No. 6,180,552, is respectfully traversed. Hlatky fails to disclose the claimed catalysts.

Hlatky discloses ligands of formula R_a-A-(L)_b where A is a group 14 element excluding carbon, and L is a pyrazolyl, triazolyl or tetraazolyl group. “A” in formula R_a-A-(L)_b corresponds to G¹ in tridentate ligand of formula (2) and G² in tridentate ligand of formula (3) of the claimed catalysts. G¹ in formula (2) is carbon (which is excluded from “A” in Hlatky). Further, the ligands of formula (2) and (3) do not contain a pyrazolyl, triazolyl or tetraazolyl group (i.e., “L” in the ligands used in Hlatky). Therefore, the ligands of formula (2) and (3) are distinguished from the ligands of formula R_a-A-(L)_b described by

Hlatky. Accordingly, the reference fails to disclose the claimed catalysts. Withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 4-9 and 11 under 35 U.S.C. §103(a) over Wu I, Wu II, Hlatky or Wilson in view of Mimura et al., U.S. patent No. 6,337,297, is respectfully traversed.

As discussed above, Wu I, Wu II, Hlatky and Wilson each fail to disclose the claimed catalysts. Moreover, there is no suggestion that one would be motivated to modify the compounds described in those reference to arrive at the claimed catalysts. Mimura has been cited for the addition of a metal alkyl or amine compound. There is no indication that Mimura suggests modifying the compounds described in Wu I, Wu II, Hlatky and Wilson to arrive at the claimed catalysts. Therefore, the combined disclosure of these references fails to suggest the claimed catalysts. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of Claims 2, 3 and 7-10 under 35 U.S.C. §103(a) over Wu I, Wu II, Hlatky or Wilson in view of Hamura et al., U.S. patent No. 5,753577, is respectfully traversed.

As discussed above, as discussed above, Wu I, Wu II, Hlatky and Wilson each fail to disclose the claimed catalysts. Moreover, there is no suggestion that one would be motivated to modify the compounds described in those reference to arrive at the claimed catalysts. Hamura has been cited for the presence of organic halides in catalyst compositions. There is no indication that Hamura suggests modifying the compounds described in Wu I, Wu II, Hlatky and Wilson to arrive at the claimed catalysts. Therefore, the combined disclosure of these references fails to suggest the claimed catalysts. Accordingly, withdrawal of this ground of rejection is respectfully requested.

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The rejection of the claims under 35 U.S.C. §112, second paragraph, is believed to be obviated by the amendment submitted above. The claims have been amended in accordance with the Examiner's suggestions. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Regarding the Restriction Response, all of the claims depend directly or indirectly from Claim 15. Since Claim 15 is allowable as discussed above, all of the claims should be rejoined under the provisions of MPEP §821.04.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



James J. Kelly, Ph.D.
Attorney of Record
Registration No. 41,504

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)